
JOURNAL CLUB

Tune In, Turn On, Drop Down *or*
Planting RICE in the Antarctic icecap *or*
Whatever happens to all those antennas
that disappear from new cars?

by

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ABSTRACT

Cosmic rays have historically been the source of much of our information about the extraterrestrial world. It is believed that among the most energetic cosmic rays are those which may be produced by massive black holes which could exist at the centers of some galaxies (aka 'Active Galactic Nuclei', or 'AGN'). Additional ultra-high energy neutrinos may be produced by the (as-yet-unidentified) process responsible for the ultra-high energy cosmic rays observed in present Extensive Air Shower and Air Cherenkov experiments, and now being reported by the Auger Project. We describe a new experimental effort to detect ultra high energy electron neutrinos through their interactions with ice molecules in the Antarctic icecap, based on the principle of 'radio coherence'. Experimentally, we measure a long-wavelength (radiofrequency) pulse resulting from this interaction. A prototype experiment (Radio Ice Cerenkov Experiment, or 'RICE') presently operating at the South Pole is described.

Friday, March 25, 2005
Globe Room, Elvey Bldg
3:45 pm